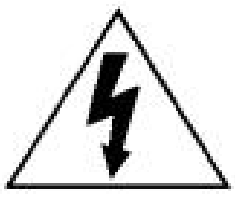
DIGITAL VIDEO RECORDER

USER MANUAL

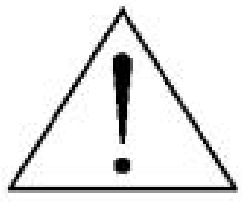
Please read instructions thoroughly before operation and retain it for future reference.

IMPORTANT SAFEGUARD



CAUTION

RISK OF ELECTRIC SHOCK



CAUTION:

To reduce the risk of electric shock, do not expose this apparatus to rain or moisture.

Only operate this apparatus from the type of power source indicated on the label.

The company shall not be liable for any damages arising out of any improper use,

even if we have been advised of the possibility of such damages.

Graphic Symbol Explanation

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

All lead-free products offered by the company comply with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive, which means our manufacture processes and products are strictly “lead-free” and without the hazardous substances cited in the directive.

The crossed-out wheeled bin mark symbolizes that within the European Union the product must be collected separately at the product end-of-life. This applies to your product and any peripherals marked with this symbol. Do not dispose of these products as unsorted municipal waste. Contact your local dealer for procedures for recycling this equipment.

This apparatus is manufactured to comply with the radio interference requirements.

Disclaimer

We reserve the right to revise or remove any content in this manual at any time. We do not warrant or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this manual. For the actual display & operation, please refer to your DVR in hand. The content of this manual is subject to change without notice.

The product & company names mentioned herein may be the registered trademarks or tradenames of their respective owners.

GPL Licensing

This product contains codes which are developed by Third-Party-Companies and which are subject to the GNU General Public License (“GPL”) or the GNU Lesser Public Licence (“LGPL”).

The GPL Code used in this product is released without warranty and is subject to the copyright of the corresponding author.

Further source codes which are subject to the GPL-licenses, are available upon request.

We are pleased to provide our modifications to the Linux Kernel, as well as a few new commands, and some tools to get you into the code. The codes are provided on the FTP site, and please download them from the following site or you can refer to your distributor:

ftp://ftp.dvrtw.com.tw/GPL/AV074/

Version

Firmware: 1156-1039-1014-1028

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1. FRONT AND REAR PANELS

1.1. Front Panel

1) 1~4

Press one of the channel number buttons to select and display the channel you want.

2) LED Indicators

HDD: The HDD is reading or recording.
TIMER: Timer recording is activated.
PLAY: The DVR is in the playback mode.
POWER: The DVR is powered on.

3) MENU

Press to enter the main menu.

4) ENTER

Press to confirm the setting.

5) LIST

To quickly search the recorded files by events, press “LIST” to show the following lists:

RECORD LIST	List all the manual recording data.
MOTION LIST	List all the motion recording data.
TIMER LIST	List all the timer recording data.
FULL LIST	List all the recording data.
QUICK SEARCH	Enter the time search menu. For details, please refer to “4.1. QUICK SEARCH” at page 10.

Choose & enter the list you want. Select one event item, and press “ENTER” to start video playback.

6) SLOW

In the playback mode, press to show slow playback.

7) ZOOM

In the live or playback mode, press to enlarge the image of the selected channel.

8) ⊞

Press to switch to 4-cut display mode.

9) SEQ.

Press to display each channel one by one in the full screen, and press again to escape the sequence mode.

10) SNAP

Press “SNAP” to take a snapshot.

Note: Before taking a snapshot, insert a compatible USB flash drive into the DVR USB port for snapshot saving. For the compatible USB flash drive list, please refer to “APPENDIX 2 COMPATIBLE USB FLASH DRIVE LIST” at page 24.

---

11) PLAY

Press to playback the recorded data.

12) PAUSE / STOP / REW / FF

In the playback mode, press one of these buttons to pause / stop / fast rewind / fast forward the playback file.

13) ▲ / ▼ / ◀ / ▶

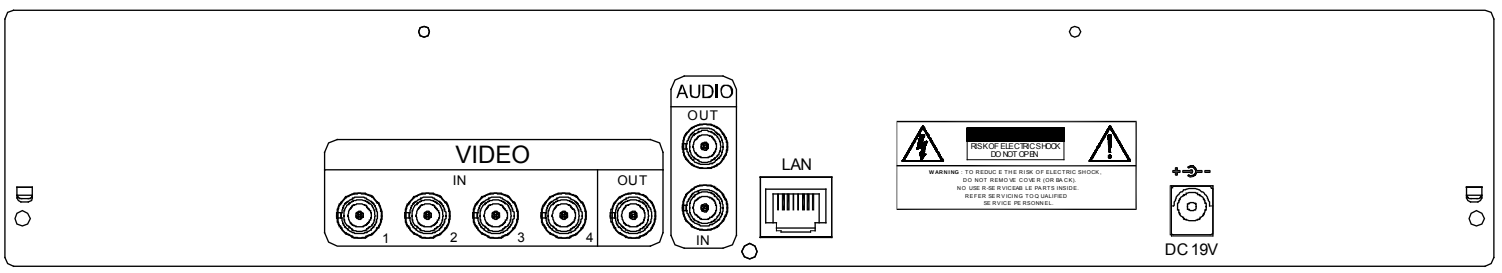
Press one of these buttons to move the highlight up / down / left / right.

In the function setting mode, press ▲ / ▼ to change the setting value.

14) USB port

To quickly backup or upgrade firmware/OSD, you can insert a compatible USB flash drive into this USB port. Before using the USB flash drive, please use your PC to format the USB flash drive as “FAT32” first.

1.2. Rear Panel



1) VIDEO IN (1 ~ 4)

INPUT: Connect to video sources, such as cameras.

Note: If you want to make a video backup with audio, please make sure whether your DVR supports the audio function, and connect audio cameras to the channels which support the audio function.

2) VIDEO OUT

Connect to MAIN monitor for video output.

3) AUDIO OUT

Connect to an audio device, such as a speaker.

4) AUDIO IN

Connect to an audio source, such as a camera equipped with the audio function.

Note: The camera must also be connected to VIDEO INPUT 1 for the audio recording function to take effect.

5) LAN

Connect to Internet by LAN cable.

6) LINK ACT.

When your DVR is connected to the Internet, this LED will be on.

7) DC 19V

Connect to the supplied adapter.

2. CONNECTION AND SETUP

Note: The DVR is designed to automatically detect the video system of the connected cameras (NTSC or PAL). To make sure the system detection is correct, please check if the cameras are connected to the DVR and power-supplied before the DVR is powered on.

2.1. HDD Installation

The HDD must be installed before the DVR is on.

Step 1: Loose the screws on the upper cover and open the upper cover of the DVR.
Step 2: Remove the HDD bracket.
Step 3: With the PCB side facing up, connect the HDD to the power connector and the DATA BUS connector.
Step 4: Slide and fasten the HDD to the HDD bracket, two screws for each side.
Step 5: Replace the HDD bracket back to the DVR base.
Step 6: Close the upper cover of the DVR, and fasten all the screws you loosened in Step 1.

2.2. Camera Connection

The cameras must be connected and power-supplied **BEFORE** the DVR is powered on. The DVR will automatically detect the video system of the connected camera(s) (NTSC / PAL), and switch itself to the correct system.

1) Video cable connection

   Connect the camera video output to the DVR video input port with a coaxial cable or RCA line with BNC connector.

2) Audio cable connection (For cameras which supports audio recording only)

   Connect the camera audio output to the DVR audio input port with a coaxial cable or RCA line with BNC connector.

3) Power connection

   Connect the camera with indicated power supply and make sure it's power-supplied.

2.3. Power Setup

This device should be operated only with the type of power source indicated on the manufacturer's label. Connect the indicated AC power cord to the power adapter, and plug into an electrical outlet. The power LED will be on.

Note: Before the DVR is powered on, make sure the cameras are connected and power-supplied for the detection of the camera video system to be correct.

Note: To ensure that your DVR works constantly and properly, it's recommended to use an UPS, Uninterruptible Power Supply, for continuously operation. (Optional)

2.4. Date and Time Setting

Before operating your DVR, please set the date and time on your DVR FIRST.

Note: Please DO NOT change the date or time of your DVR after the recording function is activated. Otherwise, the recorded data will be disordered and you will not be able to find the recorded file to backup by time search. If users change the date or time accidentally when the recording function is activated, it's recommended to clear all HDD data, and start recording again.

Press "MENU" and enter the password to go to the menu list. The default admin password is 0000. Move to "DATE" and you can set the date / time / daylight saving in the "DATE" menu list.

MENU
QUICK SEARCH
RECORD
TIMER
DATE
ADVANCE

DATE		
DATE	2008 / FEB / 15	19 : 15 : 27
FORMAT		Y/M/D
DAYLIGHT SAVING		OFF
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING		
↑↓ SELECT ← BACK → NEXT ↵ ENTER		

2.5. Password Setting

Press “MENU” and enter the password to go to the menu list. Then, Move to “ADVANCE” to enter the advanced setting menu.

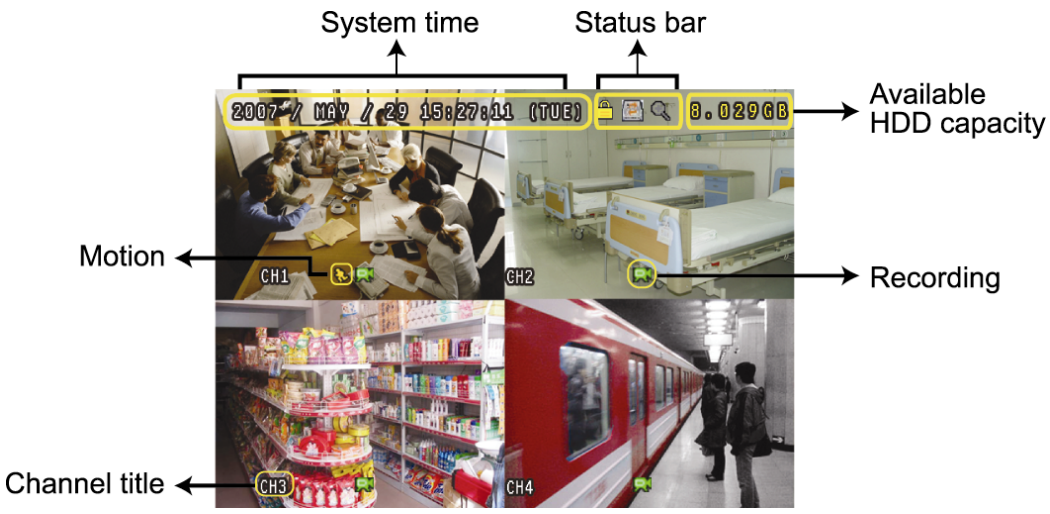
In the “ADVANCE” menu, move to “SYSTEM”. Select “PASSWORD” and press “ENTER” to enter the submenu to set the password (four digits). The default admin password is 0000.

ADVANCE
CAMERA
DETECTION
DISPLAY
ALERT
SYSTEM
NETWORK
BACKUP
HDD INFO

SYSTEM	
PASSWORD	XXXX
RESET DEFAULT	RESET
CLEAR HDD	HDD-MASTER-1
UPGRADE	START
AUTO KEYLOCK	NEVER
LANGUAGE	ENGLISH
VIDEO FORMAT	NTSC
VERSION	1167-1012-1022-1017

3. BASIC OPERATION

3.1. Live Page



Icon	Function	Icon	Function	Icon	Function	Icon	Function
	Key lock		Key unlock		1st live audio channel		1st playback audio channel
	Audio channel unselected		Digital zoom mode		Digital zoom unselected		Timer recording
	Motion		Recording		HDD overwrite		

3.2. Recording

When the recording and the pre-alarm function are activated, this device will overwrite 8GB data from the oldest for continuous recording without notice.

1) Manual Recording Icon

By defaults, when the DVR is properly connected with cameras and the HDD is installed, you can see "" (recording) on the screen.

2) Event Recording Icon

When the motion detection function is activated, you will see "" (motion) on the screen for any motion event.

3) Timer Recording Icon

When the timer record is activated, you will see the LED light of "Timer" is on, and "" (timer) on the screen.

3.3. Playback

Press "PLAY" on the DVR control panel, and the device will playback the latest recorded video.

Note: There must be at least 8192 images of recorded data for playback to work properly. If not, the device will stop playback. For example, if the IPS is set to 30, the recording time should be at least 273 seconds (8192 images / 30 IPS) for the playback to work properly.

1) Fast Forward / Fast Rewind

You can increase the speed for fast forward and rewind on this device. In the playback mode:
Press "FF" once to get 4X speed forward and press twice to get 8X speed, etc. And the maximum speed is 32X.
Press "REW" once to get 4X speed rewind and press twice to get 8X speed, etc. And the maximum speed is 32X.

Note: During playback, the image size of the recorded data will be shown on the screen.

2) Pause / Image Jog

Press “PAUSE” to pause the playback.
In the pause mode:
Press “▶” once to get one frame forward.
Press “◀” once to get one frame rewind.

3) Stop

Press “STOP” under the playback mode, and the screen of this device will return to live monitoring mode.

4) Slow Playback

Press “SLOW” to get 1/4X speed playback and press twice to get 1/8X speed playback.

3.4. Search

1) Search by List

To quickly search the recorded files by events, press “LIST” to show the following lists:

RECORD LIST	List all the manual recording data.
MOTION LIST	List all the motion recording data.
TIMER LIST	List all the timer recording data.
FULL LIST	List all the recording data.
QUICK SEARCH	Enter the time search menu. For details, please refer to “4.1. QUICK SEARCH” at page 10.

Choose & enter the list you want. Select one event item, and press “ENTER” to start video playback.

2) Search by Time

Press “MENU”, and select “QUICK SEARCH” to enter the quick time search menu. You can search any specific events by time (Year / Month / Day / Hour / Min) and directly play the file you find.

3.5. Firmware / OSD Upgrade

By using USB flash drive

Step 1. Format the USB memory device as FAT 32 format first.
Step 2. Get the upgrade files from your distributor, and save the upgrade files in your USB flash device (do not change the file name).
Step 3. Insert your USB flash drive into the USB port. Wait till the DVR detects your USB flash drive.
Step 4. Press “MENU”, and move to “ADVANCE” → “SYSTEM”. Move to “UPGRADE” → “START”, and press “ENTER”.
Step 5. Select “YES”, and press “ENTER” to confirm the upgrade.
Step 6. Wait till the DVR is rebooted and initialized.

4. ADVANCED OPERATION

4.1. QUICK SEARCH

You can search any specific events by time and directly play the file you find from the DVR.
Move to “QUICK SEARCH”, and press “ENTER”. You will see the following submenu items:

MENU
QUICK SEARCH
RECORD
TIMER
DATE
ADVANCE

TIME SEARCH		
DATE	2009 / JULY / 10	21 : 30 : 00
SEARCH HDD		ALL HDD
START		
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING		
↑↓ SELECT ← BACK → NEXT ↵ ENTER		

1) DATE

Select the specific time period (YEAR / MONTH / DAY / HOUR / MIN) that you want to search.

2) SEARCH HDD

Change to the HDD you want if there are more than 1 HDD in your DVR.

3) START

Move to “START” and press “ENTER” button to search and directly playback the recorded files.

4.2. RECORD

Move to “QUICK START” → “RECORD”, and press ”ENTER”. The screen will show the following submenu items:

MENU
QUICK SEARCH
RECORD
TIMER
DATE
ADVANCE

RECORD	
IMAGE SIZE	CIF
QUALITY	BEST
MANUAL RECORD ENABLE	ON
EVENT RECORD ENABLE	ON
TIMER RECORD ENABLE	ON
MANUAL RECORD IPS	100
EVENT RECORD IPS	100
TIMER RECORD IPS	100
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING	
↑↓ SELECT ← BACK → NEXT ↵ ENTER	

1) IMAGE SIZE

You can only select CIF.

2) QUALITY

Select one of the four quality options: SUPER BEST, BEST, HIGH and NORMAL.

3) MANUAL RECORD ENABLE

Start / stop the manual recording function.

4) EVENT RECORD ENABLE

Start / stop the event recording function. When this function is enabled, the recording will be triggered by any motion or external alarm.

5) TIMER RECORD ENABLE

Start / stop the timer recording that is activated according to the scheduled time.

6) MANUAL RECORD IPS

Select the images per second for MANUAL RECORD.

7) EVENT RECORD IPS

Select the images per second for EVENT RECORD (Recording that is triggered by a motion).

8) TIMER RECORD IPS

Select the images per second for TIMER RECORD (Recording that is activated according to the scheduled time.).

4.3. TIMER

In this menu list, you can schedule different sets of time for recording and detection function.

Move to “TIMER”, and press ”ENTER”. You will see the screen similar as follows:

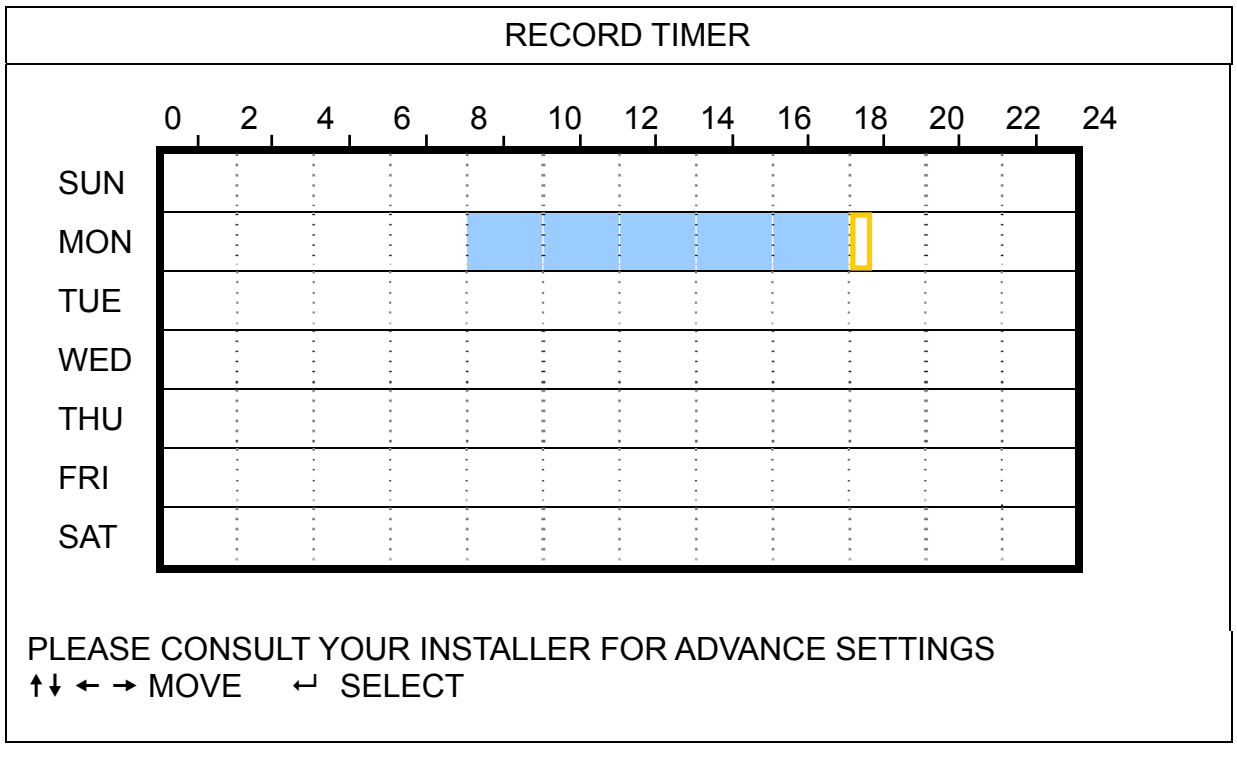
MENU
QUICK SEARCH
RECORD
TIMER
DATE
ADVANCE

TIMER	
RECORD TIMER	OFF
DETECTION TIMER	OFF

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING
↑↓ SELECT ← BACK → NEXT ↵ ENTER

1) RECORD TIMER

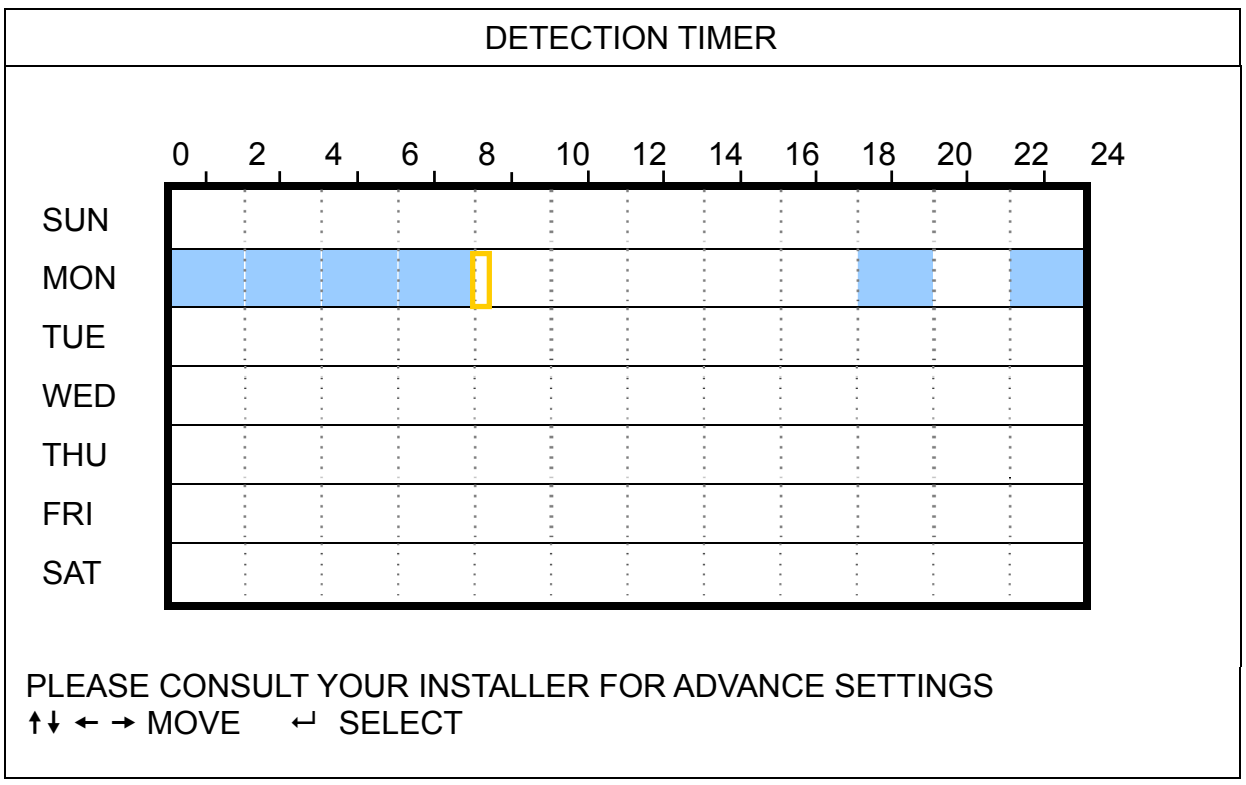
Press ▲ / ▼ to change the setting (ON / OFF). When it’s set to “ON”, press “ENTER” to go to its submenu for further settings.



X axis	0 ~ 24 hours. Each time interval within a square is two hours (divided into four 30-minutes).
Y axis	Monday ~ Sunday.
Operation	Move to the start time point, and press “ENTER” to set the start time point (marked in red color). Then, press ▲ / ▼ / ◄ / ► to set the timer-recording schedule. After setup, press “ENTER” to create an ending time point (marked in yellow color) and press “MENU” to exit.

2) DETECTION TIMER

Press ▲ / ▼ to change the setting (ON / OFF). When it's set to "ON", press "ENTER" to go to its submenu for further settings.



X axis	0 ~ 24 hours. Each time interval within a square is two hours (divided into four 30-minutes).
Y axis	Monday ~ Sunday.
Operation	Move to the start time point, and press "ENTER" to set the start time point (marked in red color). Then, press ▲ / ▼ / ◄ / ► to set the timer-recording schedule. After setup, press "ENTER" again to create an ending time point (marked in yellow color) and press "MENU" to exit.

Note: This function here is only for detection timer setup and activation.

4.4. DETECTION

In this submenu, you can set up detection-related functions.

Move to "DETECTION", and press "ENTER". You will see the following screen:

DETECTION

TITLE	DET	AREA
CH1	NORMAL	SETUP
CH2	OFF	SETUP
CH3	OFF	SETUP
CH4	OFF	SETUP

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

The submenu items are described below:

1) TITLE

Show the camera title of each channel set in "CAMERA".

2) DET

Select HIGH / NORMAL / LOW to activate the motion detection function with different sensitivity for the selected channel, or select OFF to disable this function.

3) AREA

Press "ENTER" to set the detection area. You will see similar screens as the following:

Pink blocks represent the area that is not being detected while the transparent blocks are the area under detection.

*Pink blocks represent the area that is not being detected while the transparent blocks are the area under detection.

There are three detection areas for your choice:
Press “▲” or ”◀” once to broaden the detection area.
Press “▼” or ” ▶” once to narrow the detection area.

4.5. SYSTEM

In this menu list, you can check or change some system settings.

Press “MENU”, and move to “ADVANCE” → “SYSTEM”. Press ”ENTER”, and you will see a similar screen as the following:

ADVANCE
CAMERA
DETECTION
DISPLAY
ALERT
SYSTEM
NETWORK
BACKUP
HDD INFO
EVENT LOG

SYSTEM	
PASSWORD	XXXX
RESET DEFAULT	RESET
CLEAR HDD	HDD-MASTER-1
UPGRADE	START
AUTO KEYLOCK (SEC)	NEVER
LANGUAGE	ENGLISH
VIDEO FORMAT	NTSC
VERSION	1156-1039-1014-1028
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING	
↑↓ SELECT ← BACK → NEXT ↵ ENTER	

The submenu items are described below:

1) PASSWORD

Reset the password for accessing the DVR system. You can set the 4-digit password.

2) RESET DEFAULT

Press “ENTER” to reset all settings as default, and select “YES” to confirm or “NO” to cancel.

3) CLEAR HDD

Select the HDD you want to clear. Press “ENTER” and select “YES” to confirm to clear HDD or “NO” to cancel.

4) UPGRADE (For upgrading firmware / OSD)

Before using the USB flash drive, please use your PC to format the USB flash drive as FAT32 format first. Then, save the upgrade file in a compatible USB flash drive, and insert it into the USB port at the front panel.

Press “ENTER” and select “YES” to confirm upgrade or “NO” to cancel.

Note: For the list of compatible USB flash drives, please refer to “APPENDIX 2 COMPATIBLE USB FLASH DRIVE LIST” at page 24.

5) AUTO KEYLOCK (SEC)

Set the time-out in second after which the key lock function is activated (NEVER / 30 / 60 / 120).

6) LANGUAGE (Multilingual OSD)

Select the language of the OSD.

7) VIDEO FORMAT

Here shows the information of the DVR video system (NTSC / PAL).

Note: The DVR will automatically detect and switch to the video system (NTSC / PAL) that is the same as the connected video input devices, such as cameras. To detect and switch to the correct video system, the cameras must be connected and power-supplied BEFORE the DVR is turned on.

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8) VERSION

Here shows the firmware version information.

4.6. NETWORK

In this menu list, you can set up the network.
Move to “NETWORK”, and press “ENTER” button to enter the submenu. The submenu items are described below.

4.6.1. STATIC

1) NETWORK TYPE

Select the network type as STATIC and set all the information needed in the DVR.

2) NETWORK INFORMATION (IP / GATEWAY / NETMASK)

Key in all the network information obtained from your ISP (Internet Service Provider).

3) DNS (PRIMARY DNS / SECONDARY DNS)

Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

4) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

See the example below:

STATIC	
NETWORK TYPE	STATIC
IP	192 . 168 . 001 . 012
GATEWAY	192 . 168 . 001 . 254
NETMASK	255 . 255 . 252 . 000
PRIMARY DNS	168 . 095 . 001 . 001
SECONDARY DNS	139 . 175 . 055 . 244
PORT	0080
PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING	
↑↓ SELECT ← BACK → NEXT ↵ ENTER	

4.6.2. PPPOE

1) NETWORK TYPE

Select the network type as PPPOE.

2) USER NAME / PASSWORD

Set the “username” and “password” subscribed from your ISP supplier

3) DNS (PRIMARY DNS / SECONDARY DNS)

Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

4) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.
See the example below:

PPPOE	
NETWORK TYPE	PPPOE
USER NAME	EMPTY
PASSWORD	EMPTY
IP	000 . 000 . 000 . 000
GATEWAY	000 . 000 . 000 . 000
NETMASK	000 . 000 . 000 . 000
PRIMARY DNS	168 . 095 . 001 . 001
SECONDARY DNS	139 . 175 . 055 . 244
PORT	0080

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING
↑↓ SELECT ← BACK → NEXT ↵ ENTER

Note: The PPPOE function needs to have one “username” and one “password” subscribed from one ISP supplier, and a “DDNS account” to correspond the dynamic IP address to a specific “Hostname”.

4.6.3. DHCP

1) NETWORK TYPE

Select the network type as DHCP.

2) DNS (PRIMARY DNS / SECONDARY DNS)

Key in the IP address of the domain name server obtained from your ISP (Internet Service Provider).

3) PORT

The valid number ranges from 1 to 9999. The default value is 80. Typically, the TCP port used by HTTP is 80. However in some cases, it is better to change this port number for added flexibility or security.

See the example below:

DHCP	
NETWORK TYPE	DHCP
IP	000 . 000 . 000 . 000
GATEWAY	000 . 000 . 000 . 000
NETMASK	000 . 000 . 000 . 000
PRIMARY DNS	168 . 095 . 001 . 001
SECONDARY DNS	139 . 175 . 055 . 244
PORT	0080

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTING
↑↓ SELECT ← BACK → NEXT ↵ ENTER

Note: This DHCP function needs to be supported by a router or a cable modem network with DHCP services, and a “DDNS account” to correspond the dynamic IP address to a specific “Hostname”, for this function to work properly.

4.7. BACKUP

In this menu list, you can choose to make a copy for a specified period time to a compatible USB flash drive for your own purpose.

ADVANCE
CAMERA
DETECTION
DISPLAY
ALERT
SYSTEM
NETWORK
BACKUP
HDD INFO
EVENT LOG

BACKUP
USB BACKUP

A file player will also be copied into your USB flash drive while video backup is in progress. To play the backup file, you need to install the file player into your PC first.

Note: Before making a video backup with audio, you need to make sure whether there's any audio camera connected to the channel which supports audio recording, and there's any recorded data for the channel.

4.7.1. USB BACKUP

Before making USB backup, please check if:

a). The USB flash drive is supported by your DVR. If not, the message "USB ERROR" will be shown on the screen.
For the list of the compatible USB flash drives, please refer to "APPENDIX 2 COMPATIBLE USB FLASH DRIVE LIST" at page 24.

b). The format of your USB flash drive is "FAT 32". If no, please format it to "FAT 32" in your PC.

c). There is no data in the USB flash drive. If yes, it's recommended to clear all data in the USB flash drive before starting the backup.

Note: When USB backup starts, it's not allowed for OSD menu operation or network backup in order to keep the consistency of the video data.

Note: You can backup up to 2GB video data for one-time USB backup. To backup more data, please set the time & channel(s) you want, and start USB backup again.

USB BACKUP		
START TIME	2009 / JULY / 20	13:00:05
END TIME	2009 / JULY / 21	13:10:05
AVAILABLE SIZE		1960.0MB
CHANNEL	☑ 01 ☐ 02 ☐ 03 ☐ 04	
HDD NUM		ALL HDD
START		

PLEASE CONSULT YOUR INSTALLER FOR ADVANCE SETTINGS
↑↓ SELECT ← BACK → NEXT ↵ ENTER

Move to "BACKUP", and press "ENTER". You will see the following submenu items:

1) START TIME

Select the start time of the backup.

2) END TIME

Select the end time of the backup.

3) AVAILABLE SIZE

Display the available capacity in the inserted USB flash drive.

4) CHANNEL

Select channels by pressing “ENTER” to change the symbol in front of the channel number.
Symbol “ ☑ ” means that this channel is selected to backup.
Symbol “ ☐ ” means that this channel is not selected to backup.

5) HDD NUM

Select the HDD containing the data you need.

6) START

Press “ENTER” to start copying the chosen data to the USB flash drive.

How to Play Backup File

During the backup process, a file player will also be copied into your disk, and you will see a message “BACKUP PLAYER” shown on the screen.

After USB backup is completed, “BACKUP SUCCESS” will be prompted on the screen. Remove your USB flash drive from the DVR.

Insert your USB flash drive into your PC. Install the file player “PLAYER.EXE”, and double click any backup file to play it directly in your PC and see if the backup is successful.

Note: The supported PC operation systems are Windows Vista, XP & 2000.

5. REMOTE OPERATION

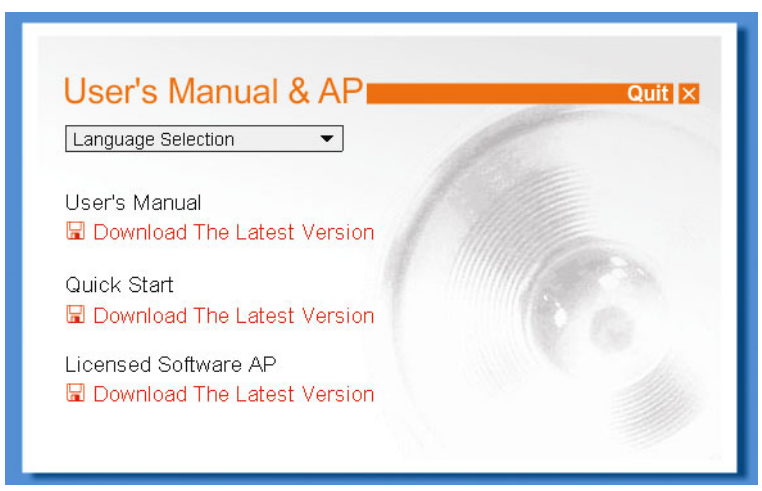
You can also control the DVR remotely via the supplied licensed software “Video Viewer” (hereafter called the “Video Viewer”), IE web browser, and Apple’s QuickTime player **ONLY** when your DVR supports the network function.

5.1. Video Viewer

5.1.1. Installation & Network Connection

1) Install the software

Step1: Place the supplied CD into your CD-ROM or DVD-ROM drive. The program will be automatically run.



Step2: Click “Licensed Software AP” to install Video Viewer immediately, or click “Download The Latest Version” under “Licensed Software AP” to download the latest version of Video Viewer from the Internet.

Step3: Follow the on-screen instructions to finish the installation. When the installation is completed, a shortcut icon “” will be placed on your PC desktop.

2) Network Connection

- Local Connection (via LAN)

LAN is used when it’s the first time to remotely access the DVR and you need to configure the network setting of your DVR based on your network type in advance.

a) Connect the DVR to your PC via a RJ45 network cable. The default DVR values are as follows:

Item	Default Value
IP address	192.168.1.10
User name	admin
Password	admin
Port	80

b) Set the PC’s IP address as “192.168.1.XXX” (1~255, except 10) in order to make the PC and DVR under the same domain.

c) Double-click “” icon on your PC desktop to enter the control panel. By defaults, the “Address Book” () panel will be displayed on the right side of the control panel.

d) Click “” (Address Book) → “” (Add) button to key in the default IP address, user name, password, and port number of the DVR you intend to connect.

OR

Click “” (Search) → “” (Refresh) to search the available IP address(es) of other DVR(s) under the same domain as your PC’s IP address. The found address(es) will be listed, and can be added into the address book by clicking “” (Add into address book).

e) Double-click the IP address you just added into the address book to log in.

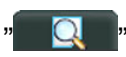
➢ Remote Connection (via Internet)

When the network configuration of your DVR is completed, you can access your DVR remotely via Internet.

a) Double-click " " icon on your PC desktop to enter the control panel. By defaults, the "Address Book" panel will be displayed on the right side of the control panel.

b) Click " " (Address Book) → " " (Add) button to key in the IP address, user name, password, and port number of the DVR you intend to connect.

OR

Click "  " (Search) → " " (Refresh) to search the available IP address(es) of other DVR(s) under the same domain as your PC's IP address. The found address(es) will be listed, and can be added into the address book by clicking " " (Add into address book).

c) Double-click the IP address you just added into the address book to log in.

5.2. IE Web Browser

Note: The supported PC operation systems are Windows Vista / XP / 2000.

Step 1: Key in the IP address used by your DVR in the URL address box, such as 60.121.46.236, and press Enter. You will be prompted to enter the user name and password to access the DVR.

If the port number your DVR used is NOT 80, you need to key in the port number additionally. The format is ***ipaddress:portnum***. For example, for IP address 60.121.46.236 and port No. 888, please key in "http://60.121.46.236:888" into the URL address box, and press "Enter".

Step 2: Enter the user name and password, the same as the ones used for video viewer login, and press "OK". You will see a screen when the login information is correct.

Note: The buttons and functions described below may differ from the actual ones and are for selected model(s) only.

NO.	Function	Description
1	Home	Click to go to the main page of the DVR
2	Config.	Click to go to the detailed DVR setting.
3	Channel Selection	Click one of the number to switch to the channel you want to see in full screen.
4	Selection	Click or to go to the previous / next channel, or change setting.
5	Display Mode	: Click to show 4-cut display. : Click to display each channel one by one, starting from CH1. When the last channel is displayed, it will start from CH1 again. To exit from this display mode, press any other channel display button.
6	Menu and Arrow Keys	: Click to enter the menu / exit the menu mode. / : Move the cursor up / down to select the previous / next menu or sub-menu function, or change the setting. / : Move the cursor left / right to the previous / next sub-menu items.
7	Event	Click to enter the playback search settings screen.
8	Snapshot	Click to take a snapshot for the current view, and open another browser window to display the captured image.
9	Key Lock	Click to enable the DVR key lock function. To unlock the DVR, key in your password, and press .
10	Enter	Click to confirm the setting or enter your selection.
11	Digital Zoom	Click to zoom in / out the selected channel image.

NO.	Function	Description
12	Search	Click to enter the DVR full search menu. You can check all the logs here, and select one of them to payback.
13	Playback control buttons	(Stop) / (Play) / (Rewind) / (Forward) / (Pause) / (Slow Playback) **Rewind / Forward** Click once to get 4X fast rewind / forward, twice to get 8X, three times to get 16X, and four times to get 32X the highest. **Slow Playback** Click once to get 4X slow playback and twice to get 8X slow playback.
14	Web Transmission	**H.264 / QuickTime** QuickTime is Apple Inc.'s multimedia software. You need to have QuickTime installed in you operation system first. When "QuickTime" is selected, you will be promoted to enter the user name and password to access the server of the DVR.
15	Change Quality	**BEST / HIGH / NORMAL / BASIC** Click to change the image quality.
16	Change Resolution	**4 CIF / CIF** Click to change the image resolution (4CIF: 704*480 / CIF: 352*240)

5.3. QuickTime Player

You can also use the QuickTime player to remotely log into the DVR and check the live view only.

Note: QuickTime is Apple's multimedia software. You need to have QuickTime installed in you operation system first, and you can access the DVR to see the live view.
If you have installed QuickTime, please skip Step 1.

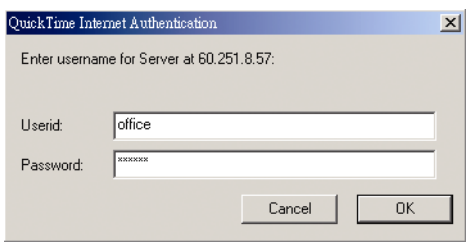
Note: The latest version of QuickTime is V6.4 at the time this manual goes to press, and the supported operation systems are Windows Vista / XP / 2000, and Apple Mac.

Step 1: Go to Apple's official website to download QuickTime. The website address is as follows:
http://www.apple.com/quicktime/win.html
a). Click "Free Download" to go into the download page, and select to download the free player.
b). Leave your Email address, and click "Free Download Now" to download the latest QuickTime player.
c). When the download is completed, execute the "QuickTimeInstaller.exe" file, and follow the on-screen instructions to finish the installation procedure.

Step 2: Open your QuickTime player. Select "File" → "Open URL in New Player…", and key in the URL address. The URL format is "rtsp://**ipaddress**/live/h264" (For example, "rtsp://**59.124.231.75**/live/h264").
Click "OK" to continue.

Step 3: A pop-up window will appear and prompt you to enter the authentication information.

Key in the user name and password for accessing your DVR. The user name and password are the same as the ones you use to log into Video Viewer. If the information is correct, click "OK" to go on. If not, click "Cancel" to quit the accessing.



Note: If you're not prompted to enter the authentication information, and the error message 10060 appears, go to "Edit" → "Preferences" → "QuickTime Preferences", and select "Streaming Transport" front he drop-down list. Select "Use HTTP", and keep the port ID as 80.

Step 4: When the login is successful, you will see the live view.

APPENDIX 1 TROUBLESHOOTING

Please refer to the table below for easy troubleshooting. The table describes some typical problems and also their solutions. Please check them before calling your DVR dealer.

- **FAQ (Frequently ask question)**

Questions	Solutions
No power	Check power cord connection.
	Confirm that there is power supplied from the outlet.
DVR is not working when pressing any button	You might be under “Key Lock” mode. Press any key and enter the password to exit this mode.
HDD detection failed	Replace with another HDD for testing.
	Replace with another HDD cable for testing.
Can’t detect your USB flash drive	Replace with another USB flash drive for testing.
	Format the USB flash drive as FAT32 format and try again.
No live video	Confirm the camera is power supplied.
	Check the setting of the camera lens.
	Check the monitor’s video cable and connection.
	Check the camera’s video cable and connection.
No recorded video	Check if the HDD is installed and connected properly.
	Check if “MANUAL RECORD ENABLE” option is set to “ON”, and the record function in the “CAMERA” menu is set to “ON”, too.
Timer recording is not working	Check if “TIMER RECORD ENABLE” option is set to “ON”, and the timer schedule has been arranged.
Motion detection recording is not working	Check if “EVENT RECORD ENABLE” option is set to “ON”.
	Check if the detection function “DET” is set to “ON”.
	Check if the detection area “AREA” has been set.
Can’t play the recorded data on my DVR	There must be at least 8192 images of recorded data for playback to work properly. If not, your DVR will stop the playback. For example, if the IPS is set to 30, the recording time should be at least 273 seconds (8192 images / 30 IPS) for the playback to work properly.
Can’t backup the video with audio	Make sure your DVR support the audio function.
	Make sure your camera supports the audio function.
	Make sure your camera is connected to DVR VIDEO IN 1 and AUDIO IN.
Can’t view the DVR images over the network with IE web browser after login	Check the DVR firmware version.
	Choose to allow the web browser ActiveX or applet in the pop-out message.
Failed to backup the recorded files of the DVR from the remote PC side	You need to be a supervisor to operate this function.
	Check if the network connection information is correct (IP Address / Port / User Name / Password).
	Specify the hard disk (HDD Number) and channel number (Channel) within which have the recorded data you need.
Failed to upgrade the firmware / OSD file via USB flash drive	Check if the USB flash drive is formatted to FAT32.
	Check if the firmware / OSD files are correct.

APPENDIX 2 COMPATIBLE USB FLASH DRIVE LIST

Please upgrade the firmware of the DVR to the latest version to ensure the accuracy of the following table. If the USB flash drive is not supported by the DVR, the “USB ERROR” message will be shown on the screen.

Note: Please use your PC to format the USB flash drive as “FAT32”.

MANUFACTURER	MODEL	CAPACITY
Transcend	JFV35	4G
	JFV30	8G
Kingston	DataTraveler	1G
PQI	U172P	4G
Apacer	AH320	2GB
	AH320A	8GB
	AH220	1GB
	AH320	4GB
A-data	RB-18	1GB
Sandisk	Cruzer Micro	2G
	Cruzer Micro	4G
	Cruzer4-pk	2G
Netac	U208	1G
MSI	F200	4G
SONY	Micro Vault Tiny 2G	2G
	Micro Vault Tiny 4G	4G
	Micro Vault Tiny	1G

APPENDIX 3 COMPATIBLE SATA HDD LIST

MANUFACTURER	MODEL	CAPACITY	ROTATION
Seagate	ST3320613AS	320GB	7200 rpm
	ST33500320AS	500GB	7200 rpm
	ST3750330AS	750GB	7200 rpm
	ST31000340AS	1000GB	7200 rpm
WD	WD3200AAKS	320GB	7200 rpm
	WD5000AACS	500GB	7200 rpm
	WD6400AAKS	640GB	7200 rpm
	WD7500AAKS	750GB	7200 rpm
Maxtor	STM3500320AS	500GB	7200 rpm
	STM3750330AS	750GB	7200 rpm
HITACHI	HDT725032VLA360	320GB	7200 rpm
	HDS721010KLA330	1000GB	7200 rpm

APPENDIX 4 SPECIFICATIONS

Video System	NTSC / PAL (auto detection)
Video Compression Format	H.264
Video Input (Composite video signal 1 Vp-p 75Ω BNC)	4 Channels
Video Output (BNC)	Composite video signal 1 Vp-p 75Ω BNC
Maximum Recording Rate (CIF)	60 IPS @ 360×240 <NTSC> / 50 IPS @ 360×288 <PAL>
Adjustable Recording Speed (CIF)	60, 30, 15 IPS <NTSC> / 50, 25, 12 IPS <PAL>
Image Quality Setting	SUPER BEST / BEST / HIGH / NORMAL
HDD Type	SATA
HDD Storage**	One HDD
HDD Quick Cleaning	Deletes HDD data efficiently (1TB within 2 seconds)
Recording Mode	Manual / Timer / Motion / Remote
Refresh Rate	120 IPS for NTSC / 100 IPS for PAL
Audio I/O	4 audio inputs, 1 audio output (Mono)
Motion Detection Area	3 pre-defined areas selectable
Motion Detection Sensitivity	One parameter with four sensitivity levels (HIGH / NORMAL / LOW / OFF)
Pre-alarm Recording	Yes (8 MB)
Backup Device	(1) USB Flash Drive; (2) Network
USB Interface	Front panel * 1
Web Transmitting Compression Format	**H.264**
Ethernet	10/100 Base-T (Supports remote control and live view via Ethernet)
Remote Operation Software	**Licensed software "Video Viewer", Internet Explorer / Mozilla Firefox web browser, and QuickTime player** *Operating System: Windows Vista / XP / 2000; Apple Mac
Network Protocol	TCP/IP / PPPOE / DHCP / DDNS
Key Lock	YES
Video Loss Detection	YES
Camera Title	Support up to 6 letters
Video Adjustable	Hue / Color / Contrast / Brightness
Date Display Format	YY/MM/DD, DD/MM/YY & MM/DD/YY
Daylight Saving	YES
Power Source	DC 19V
Power Consumption	＜42 W
Operating Temperature	10℃ ~ 40℃ (50℉~104℉)
Dimensions (mm)***	345(W) × 60(H) × 223(D)
System Recovery	System auto recovery after power failure

*The specifications are subject to change without notice

** The DVR supports one HDD capacity up to 1TB, and HDDs are optional.

*** Dimensional tolerance: ±5mm